

Remarks

Claims 79, 80, 82, 86-93 and 95 are pending for examination. Of these claims, Claim 79 is independent and the remaining claims are all directly or indirectly dependent upon Claim 79. All claims stand rejected under 35 USC 103(a). Applicants respectfully traverse this rejection for the reasons as stated below.

Claims 79, 82, 91 and 93 stand rejected as being obvious in view of Caduff (US 7,315,767) in view of Bauer (US 6,322,963).¹ The Examiner states that Caduff teaches all elements of claim 79 with the exception of a pair of injection and sensing electrodes. The Examiner then relies upon Bauer for purportedly teaching the use of two pair of injection and sensing electrodes. Applicant respectfully submits that the Examiner's analysis and conclusions are incorrect for the following reasons which are discussed in more detail below:

- 1) Caduff teaches a very specific electrode structure that cannot be altered;
- 2) Bauer is directed to an entirely different device; and,
- 3) The combination of Caduff and Bauer cannot be made.

1) Caduff teaches a very specific electrode structure that cannot be altered

Caduff is generally directed to a method and system for measuring glucose levels involving the measurement of the impedance caused by skin to a current flowing between two electrodes. Caduff teaches that although other devices exist for this purpose, one of

¹ In addition, the Examiner made rejections under 35 U.S.C. §103(a) to Claims 80, 88-89, 90 and 95, however these rejections are considered traverse in light of the arguments herein concerning independent Claim 79.

the problems (which the reference seeks to address) is the inaccuracy in the measurement due to variables that affect the electrical contact between the skin and the electrodes (column 1, lines 59-66). Caduff then offers a solution to this problem by proposing a device that applies a “defined” electrical field. Caduff teaches that by using the specific two-electrode format described in the reference, such a “defined field can be established within the target”. Caduff also describes a system that incorporates a microstrip near-field antenna, for injection, and a sensing antenna that essentially surrounds the former. Caduff also teaches that the depth of the generated electromagnetic field is “strongly dependent” on the geometry of the antennae/electrodes (column 6, lines 10-14).

Applicant respectfully submits that the teaching in Caduff makes it clear that the device taught therein cannot be varied in any significant manner. In other words, Caduff must be restricted to a method and system having only two electrodes and, further, to electrodes having the specific orientation as described in the reference.

2) Bauer is directed to an entirely different device

Bauer is unrelated to the technology as the presently claimed invention or that of Caduff. Bauer does not teach a non-invasive glucose measurement device. Instead, Bauer is directed to a device that uses a probe, to which a specific reference molecule is attached, and which is used to detect or measure a specific analyte. There is no mention in Bauer of a pair of electrodes, a non-invasive blood glucose measurement device or, in fact, any dermal measurement application. Bauer is directed to a class of well known biosensors based on binding or modification of a thin film of a specific molecule, and

detecting the alteration by some physical means (e.g. voltage, current, charge, electrical resonant frequency, mechanical resonant frequency, or a number of optical methods). Thus, all measurement is the result of an effect on the specific immobilized molecule provided on a probe. Bauer is clearly not directed to a dual electrode system.

3) The combination of Caduff and Bauer cannot be made

The Examiner's finding of obviousness is based on a combination of the teachings of Caduff and Bauer. The Examiner argues that Bauer can be combined with Caduff to result in the Caduff device having two pairs of electrodes. Applicant respectfully submits that the Examiner's argument is incorrect. First, as discussed above, Caduff cannot be manipulated in the way the Examiner proposes. Second, Bauer is specifically directed to a probe and not to an electrode as in either Caduff or the presently claimed invention. It is not possible for any teaching of the probe of Bauer to be confused with the electrodes of Caduff. The references are clearly unrelated.

As explained above, the device of Caduff very specifically requires a specific arrangement and/or geometry of electrodes. Any modification of such clear teaching in the reference to include two separate pairs of electrodes is well beyond the purview of a person of ordinary skill in the art.

Moreover, even if some combination of Caduff and Bauer were made, the result would still be far removed from the present invention. Specifically, the only teaching in Bauer of using more than one probe involves either the use of two probes to duplicate readings or the use of two different probes (i.e. probes having different reference

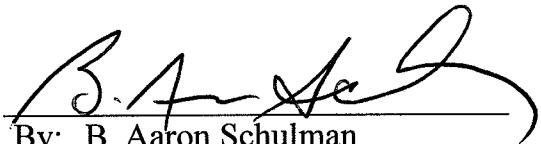
molecules affixed thereon). Indeed, the section found in column 17, lines 58-62 of Bauer, upon which the Examiner relies, refers simply to the use of different probes, each having a different reference molecule, so that the same analyte can be detected using two different probes to reduce the rate of false positives. Thus, the only possible combination that can result from the teachings of Caduff and Bauer is a system similar to that of Caduff but wherein two identical devices are used simultaneously. Such duplication would still be entirely different from the system and method of the present invention wherein the current injected by each pair of injection electrodes is sensed by a pair of sensing electrodes.

In view of the foregoing, it is respectfully submitted that present claim 79 stands clearly novel and non-obvious in view of Caduff and Bauer, taken alone or in combination. All other claims currently pending the subject application depend either directly or indirectly on claim 79. Moreover, none of the other references cited by the Examiner overcome the deficiencies pointed out above with regard to the Caduff and Butler references. As a result, all claims currently pending for examination are novel and non-obvious over Caduff and Bauer, and the Examiner's rejection on the basis of these references is respectfully traversed and should be withdrawn

In light of the foregoing, Applicants thus submit that the present application overcomes all prior rejections and objections, and has been placed in condition for allowance. Such action is respectfully requested.

Respectfully submitted,

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